

Application No. 10/696,532
Response to Office Action

Customer No. 01933

Amendments to the Drawings:

Fig. 10B has been amended to add reference numeral 41h,
which is described in the specification at page 41, line 17.

Attachments: Annotated Sheet Showing Changes
Replacement Sheet

R E M A R K S

Reconsideration of this application, as amended, is respectfully requested.

THE SPECIFICATION

The specification has been amended to correct some minor informalities of which the undersigned has become aware.

No new matter has been added, and it is respectfully requested that the amendments to the specification be approved and entered.

THE DRAWINGS

Fig. 10B has been amended to add reference numeral 41h, which is described in the specification at page 41, line 17.

Submitted herewith are a corrected sheet of formal drawings which incorporates the amendment and an annotated sheet showing the change made thereto.

No new matter has been added, and it is respectfully requested that the amendment to Fig. 10B be approved and entered.

THE CLAIMS

Claims 1, 4-9, 12, 16-20 and 23-26 have been amended to make some minor grammatical improvements and to correct some minor

antecedent basis problems so as to put them in better form for issuance in a U.S. patent.

In addition, claim 27 has been prepared to correspond to the subject matter of claim 3 depending from claim 1.

New claims 28 and 29 depending from claim 27 have been prepared to recite that the observation optical system comprises an erecting microscope and an inverted microscope, respectively. See Figs. 4, 6 and 7 for an erecting microscope, and see also Figs. 1, 3 and 5 for an inverted microscope.

New claims 30 and 31, depending from claims 3 and 27, respectively, have been prepared to recite the feature of the present invention whereby the laser light irradiation optical system and the observation optical system have an objective lens in common. See, for example, Figs. 3, 4, 6 and 7.

New claims 32 and 33 correspond respectively to the subject matter of claims 28 and 29 depending from claim 3.

New claim 34 depending from claim 10 has been prepared to recite the feature of the present invention whereby the transmission type active optical element comprises a liquid crystal substrate. See, for example, the disclosure in the specification at page 8, lines 11-13.

New claim 35 depending from claim 11 has been prepared to recite the feature of the present invention whereby the reflection type active optical element comprises a micro mirror

array. See, for example, the disclosure in the specification at page 22, lines 20-23.

And new claim 36 depending from claim 1 has been prepared based on, for example, the subject matter of Figs. 6 and 9.

No new matter has been added, and it is respectfully requested that the amendments to claims 1, 4-9, 12, 16-20 and 23-26 and the addition of claims 27-36 be approved and entered.

It is respectfully submitted, moreover, that the amendments to claims 1, 4-9, 12, 16-20 and 23-26 are clarifying in nature only and are clearly not related to patentability, and do not narrow the scope of the claims either literally or under the doctrine of equivalents.

CLAIM FEE

The application was originally filed with 26 claims of which 3 were independent, and the appropriate claim fee was paid for such claims. The application now contains 36 claims, of which 3 are independent. Accordingly, a claim fee in the amount of \$500.00 for the addition of 10 extra claims in total is attached hereto. In addition, authorization is hereby given to charge any additional fees which may be determined to be required to Account No. 06-1378.

THE PRIOR ART REJECTION

Claims 1-5, 7, 10-16, 18 and 20-26 were rejected under 35 USC 102 as being anticipated by USP 6,251,516 ("Bonner et al"), and claims 6, 8, 9 17 and 19 were rejected under 35 USC 103 as being obvious in view of the combination of Bonner et al and USP 5,756,586 ("Caprioli"). These rejections, however, are respectfully traversed.

On page 2 of the Office Action, the Examiner broadly asserts that the abstract, figures and columns 3-8 of Bonner et al disclose that "[a] laser is used to cut the desired section, which is then transfer [sic] to a slide for further examination and analysis."

However, since neither the abstract nor columns 3-8 of Bonner et al even mention a laser, and instead describe removing a target area from a sample by mechanical means (a contact probe 5, a hollow suction probe or a cutting extraction device 9), it is assumed that the Examiner intended to refer to Figs. 8-10 of Bonner et al and the description thereof at, for example, columns 9-16.

Nevertheless, it is respectfully submitted that even Figs. 8-10 and columns 9-16 of Bonner et al do not disclose a laser that is used to "cut" the desired section from the sample, as asserted by the Examiner. Rather, Figs. 8-10 of Bonner et al show various techniques for activating a section of an

activatable adhesive or thermoplastic film layer that is applied to the cellular material, such that the activated section of the layer adheres to the cellular material. In this manner, when the layer is removed from the cellular material, a desired area of the cellular material at the activated section is removed with the layer.

Still further, even if Bonner et al disclose the subject matter described by the Examiner, it is respectfully pointed out that independent claims 1, 12 and 23 do not merely recite that “[a] laser is used to cut the desired section, which is then transfer [sic] to a slide for further examination and analysis.”

By contrast, according to the present invention as recited in clarified amended independent claim 1, the laser light irradiation optical system comprises an active optical element which forms thereon a pattern corresponding to the necessary area, and the laser light irradiation optical system sets a laser light irradiation area, in which the laser light is applied on the sample, via the pattern formed on the active optical element.

In addition, according to the present invention as recited in clarified amended independent claim 12, the laser light irradiation optical system comprises pattern forming means for forming a pattern corresponding to the necessary area, and the laser light irradiation optical system sets a laser light

irradiation area, in which the laser light is applied on the sample, via the pattern formed by the pattern forming means.

Still further, according to the present invention as recited in clarified amended independent claim 23, the sample is irradiated with laser light through an active optical element or pattern forming means, which forms thereon a pattern corresponding to the necessary area.

Thus, according to the present invention as recited in independent claims 1, 12 and 23, an active optical element or pattern forming means, such as a liquid crystal substrate or micro mirror array, for example, is provided which forms a pattern thereon that corresponds to the necessary area of the sample. For example, a pattern 4c as shown in Fig. 2B may be formed to allow the laser light, which is transmitted through the pattern 4c, to irradiate around the necessary areas to cut out the necessary areas from the sample. Alternatively, a pattern as shown in Fig. 9B may be formed to prevent laser light from irradiating areas 25b corresponding to the necessary areas. With the pattern shown in Fig. 9B, the area 25a, which does not include the samples, is irradiated to destroy the DNA therein.

The Examiner has not mentioned an active optical element or pattern forming means in the rejections of claims 1, 12 and 23. And it is respectfully submitted that Bonner et al clearly does not disclose, teach or even remotely suggest an active optical

element or pattern forming means in the laser light irradiation optical system (through which the laser light is irradiated), as recited in clarified amended independent claims 1, 12 and 23. Indeed, it is respectfully pointed out that the laser shown in Figs. 9 and 10 of Bonner et al is simply irradiated onto a particular area of the sample via a lens and mirror.

It should also be noted that the active optical element and pattern forming means were positively recited in original independent claims 1, 12 and 23, and that the amendments to claims 1, 12 and 23 set forth above are clarifying in nature only.

It is respectfully submitted, moreover, that since Bonner et al does not disclose an active optical element or pattern forming means, Bonner et al clearly does not disclose, teach or suggest a pattern image projection optical system, as recited in claims 2 and 13 (and method claim 25), or setting a pattern on the active optical element or pattern forming means, as recited in claims 4, 5, 15 and 16 (and method claim 25).

Still further, it is respectfully pointed out that Bonner et al only discloses irradiating the desired area of the sample to cause the activatable layer to adhere thereto, and clearly does not disclose, teach or even remotely suggest irradiating an area of the sample surrounding the necessary area, as recited in

claims 6, 17, 24 and new claim 36, or irradiating an area excluding the necessary area as recited in claims 7, 18 and 26.

Caprioli, moreover, has merely been cited for the disclosure of a laser beam to release samples for analysis.

In view of the foregoing, it is respectfully submitted that clarified amended independent claims 1, 12 and 23, as well as claims 2-11, 13-22 and 24-36 respectively depending therefrom, all clearly patentably distinguishes over Bonner et al and Caprioli, taken singly or in combination under 35 USC 102 as well as under 35 USC 103.

* * * * *

Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,

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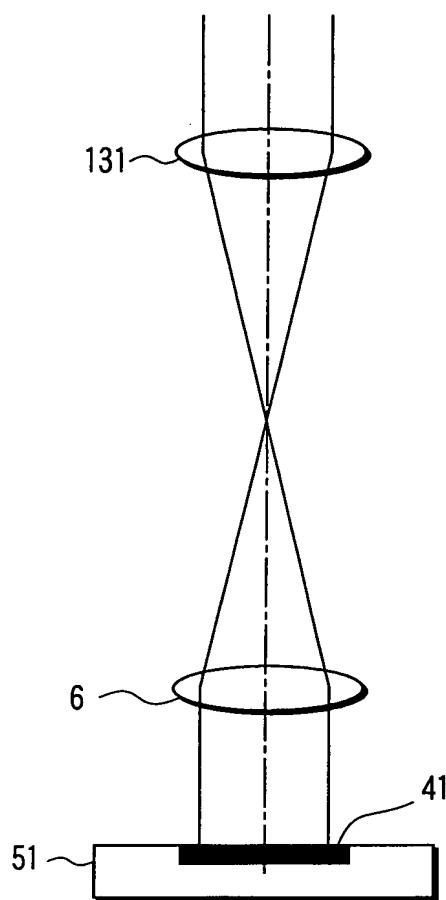


FIG. 8A

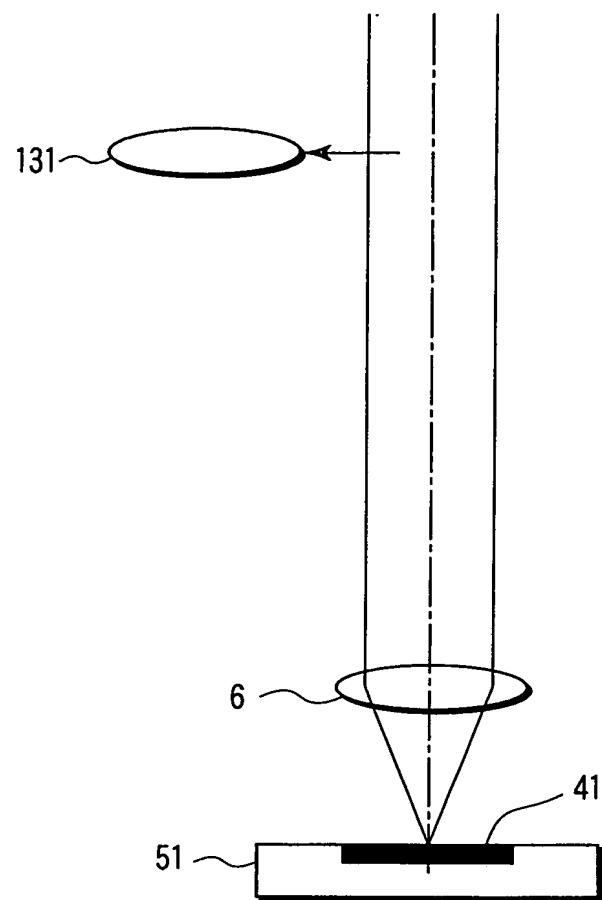


FIG. 8B

FIG. 10A

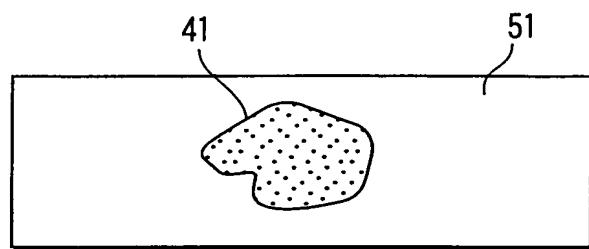


FIG. 10B

